

BPA Network Open Season 2013 Cluster Study

Customer Meeting

January 15, 2014



Topics for Discussion

- Cluster Study TSR Overview
- Cluster Study Areas
- Incremental TTC Needed
- Cluster Study Areas – Preliminary Plan of Service
- Next Steps

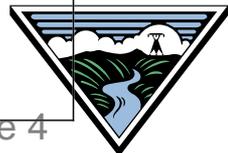
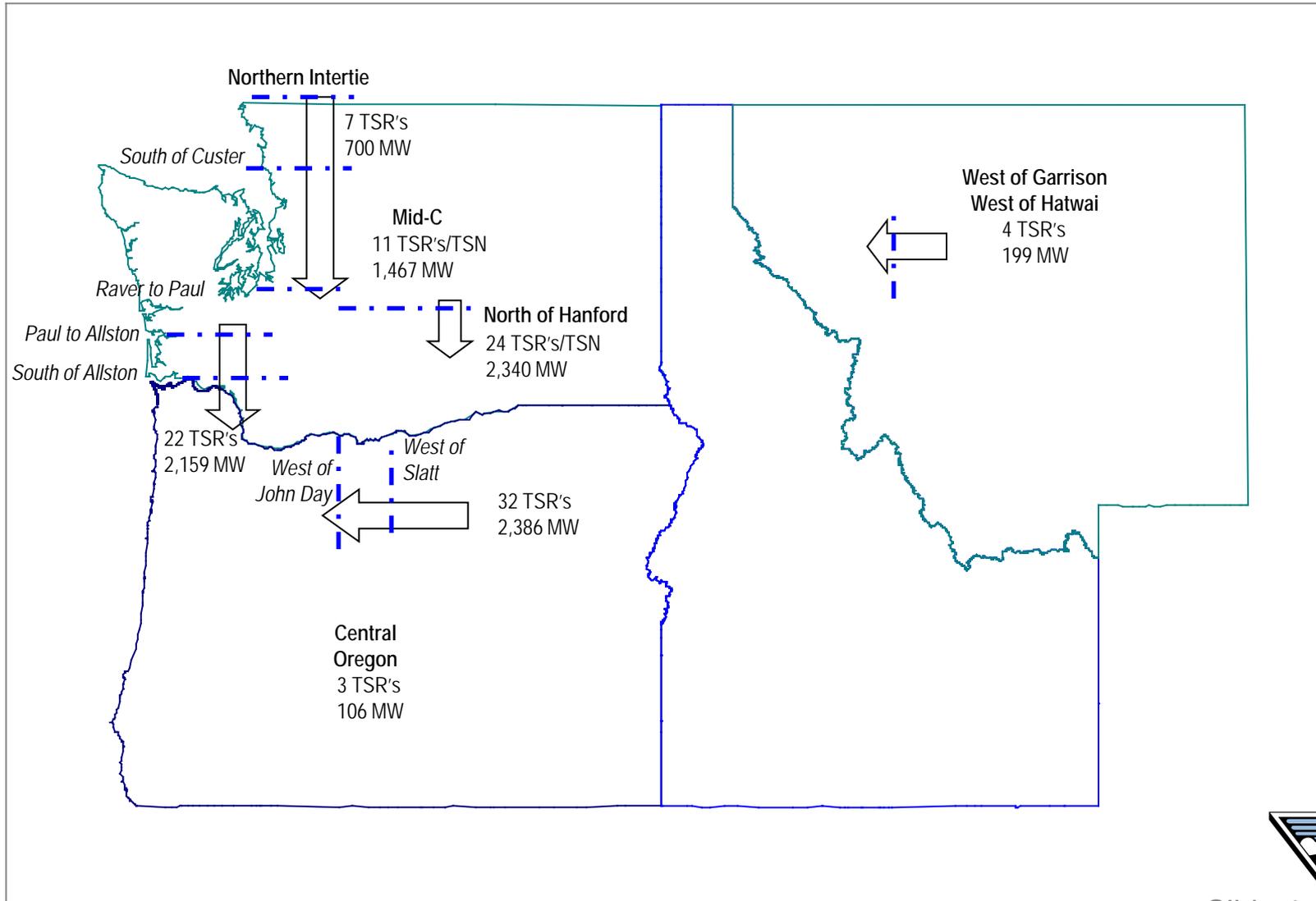


Cluster Study TSR Overview

- 7,820 MW of TSRs were considered for the 2013 Cluster Study:
 - 1,855 MW either failed the eligibility requirements (405 MW) or did not pass the Data Exhibit validation (1,450 MW) and therefore were not offered a Cluster Study Agreement (CSA)
- BPA tendered 21 CSAs (1 per customer) for 5,965 MW
 - Customers elected not to proceed with 2,492 MW
- BPA received 18 executed and funded CSAs for 3,473 MW.
 - 18 Customers, 48 TSRs
 - 834 MW of NT (19 TSRs)
 - 2,101 MW of Original PTP (21 TSRs)
 - 538 MW of Redirected PTP (8 TSRs)
- 2 PTSAs for 200 MW associated with Redirect
- 1 TSN for 500 MW associated with SILS Asset Exchange



Cluster Study Areas



Incremental TTC Needed

Path	2013 LTF TTC (MW)	Target 2013 NOS TTC (MW)	Delta (MW)
Northern Intertie	2,000	2,850	850
South of Custer	1,800	2,200	400
Raver-Paul	1,450	1,550	100
Paul-Allston	2,250	2,400	150
South of Allston	2,935	4,000	1,065
North of Hanford	4,400	4,400 – 4,800	0 - 400
West of Slatt	4,100	4,700	600
West of John Day	3,750	3,850	100



Cluster Study Areas – Preliminary Plan of Service

- Northern Intertie (Westside)/South of Custer
 - Second 230/115kV Transformer between BPA's Custer and PSE's Whatcom County system plus
 - Re-sag Monroe-Novelty 230kV to 80 Deg C
- Raver-Paul
 - PSE Woodland-Gravelly 115kV and reconfiguration at Gravelly Lake plus
 - Re-sag PSE's Alderton-Fairchild 115kV to 70 Deg C.
- Paul-Allston/South of Allston
 - I-5 Corridor Reinforcement Project
- Mid-Columbia
 - Pending resolution of the Mid-C Investigation
- North of Hanford
 - Pending resolution of North of Hanford AMM



Cluster Study Areas – Preliminary Plan of Service

- West of Slatt/West of John Day
 - No additional transmission expansion required beyond Big Eddy-Knight
- West of Garrison/West of Hatwai
 - Assume Montana to Northwest Project (M2W) in-service
 - 2010 NOS Cluster Study identified Garrison to Ashe (GASH) as next transmission expansion after M2W
 - No feasible transmission expansion between M2W and GASH
- Central Oregon
 - 2010 NOS Cluster Study did not identify additional transmission expansion beyond Ponderosa 500/230kV No. 2 transformer addition
 - No additional transmission expansion required



Cluster Study Areas – Preliminary Plan of Service

■ Remaining Studies

- As part of the 2013 Cluster Study, transient stability studies were performed that indicate undamped oscillations during light load spring conditions coupled with high N>S transfers from the Northern Intertie to the Southern Interties.
- The Cluster Study is considering whether to add one or more Static VAR Compensators (SVC) at various 500 kV substations.
 - Actual system operations coupled with requests for Long Term Firm Service result in reliability concerns associated with transient stability performance following outages.
 - SVC's would improve dynamic performance of the system.
- Planning is investigating whether SVC's are required to support Firm N>S transfers across the system from the Northern Intertie to the Southern Interties.



Next Steps

- Complete Identifying Transmission Expansion Requirements
- Complete Cost Estimate and Schedule
- Submit Plans of Service, Cost Estimate and Schedule by April 30th
- Start Phase 2 – Preliminary Economic Analysis
- Complete 2013 NOS Cluster Study Report

